

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

GE HEALTHCARE BIO-SCIENCES AB,
GE HEALTHCARE BIO-SCIENCES
CORPORATION, and GENERAL
ELECTRIC COMPANY,

Plaintiffs,

v.

BIO-RAD LABORATORIES, INC.,

Defendant and Counterclaim Plaintiff.

Civil Action No. 1:14-cv-07080-LTS

**DECLARATION OF PROFESSOR JAMES R. KEARL
IN OPPOSITION TO PLAINTIFFS' MOTION FOR A PRELIMINARY INJUNCTION**

I, James R. Kearl, hereby declare as follows:

I. Summary of Opinions

1. I have been asked by counsel for Bio-Rad Laboratories, Inc. ("Bio-Rad") to review GE's Motion for a Preliminary Injunction ("Motion") and to assess whether GE will suffer irreparable harm by the continued sale of the accused Bio-Rad products during the course of the above referenced litigation.

2. Based on the evidence discussed in this declaration, I have concluded that GE will not be irreparably harmed by the continued sale of Bio-Rad's Next Generation Chromatography ("NGC") systems, the systems that GE has accused of infringing the patent-in-suit, U.S. Patent No. 8,821,718 ("the '718 patent"). GE has provided no evidence of a causal connection between the patented features and any harm that it alleges results from Bio-Rad's sales of the NGC

systems. In particular, GE has provided no evidence of any significant lost sales following issuance of the '718 patent. GE has similarly failed to provide sufficient evidence of price erosion following issuance of the '718 patent, or evidence that any such price erosion would not be reversible. Finally, GE has provided no evidence to support its claims for loss of "first mover advantage" and goodwill.

3. Even if the Bio-Rad NGC systems at issue were found to infringe any of GE's claimed intellectual property rights, GE has not provided reliable evidence that it could not be adequately compensated with money damages. It is my opinion that all of the types of potential damages asserted by GE in its Motion could be quantified.

II. Background

4. I am currently the A.O. Smoot Professor of Economics at Brigham Young University (BYU) and a Senior Consultant with Charles River Associates (CRA), a firm that provides expert analysis, litigation support, and consulting in sophisticated and complex matters involving economics and finance.

5. I received my Ph.D. in Economics from the Massachusetts Institute of Technology in 1975 and completed postdoctoral studies in law and economics at the Harvard Law School in 1979. I have been a member of the Economics Department at BYU since 1975. Prior to that time I was a teaching fellow at Harvard University. From 1978 to 1983, I held a joint appointment in the Economics Department and J. Reuben Clark Law School at BYU. Over the past 35 years, I have taught courses in the Principles of Economics, Microeconomic Theory, Applied Microeconomics, Industrial Organization, Economics of Antitrust and Regulation, Applied Welfare Economics, International Trade, International Trade Policy, and Law and Economics. I have also team taught courses at BYU's J. Reuben Clark Law School in Antitrust

Law, Regulatory and Administrative Law, and International Trade Law and Regulation.

6. I have lectured for the U.S. Government in a number of countries on the Economics of U.S. Trade Policy, Law and Economics, and the Economics of U.S. Antitrust Laws. I have also taught courses on the same topics at the Republic of China's Professional Training Center and at its Land Development Institute. In addition, I have presented papers at professional meetings and lectured at bar association meetings and CLE seminars dealing with the economics of antitrust liability and damages, intellectual property and intellectual property damages and general commercial damages. I've also presented CLE seminars on working with economic experts. My *curriculum vitae* is attached to this declaration as Exhibit 1.

7. I have testified numerous times on antitrust, intellectual property and complex commercial matters in state and federal courts, before the FTC, and in FINRA and JAMS arbitrations. In this regard, two years ago I was appointed a Rule 706 (court) expert in an intellectual property matter. A list of prior testimony is attached to this declaration as Exhibit 2.

8. I have been asked by counsel for Bio-Rad to assess whether damages could be quantified at the time of trial and whether, upon a finding of infringement of GE's asserted intellectual property rights, Plaintiffs could be made whole through quantifiable means.

9. I am being compensated at my customary rate for my work on this case of \$725 per hour. I have received no other compensation for my work in this litigation. My compensation is not contingent in any way upon the opinions I arrive at, or on the result of the litigation.

10. In performing my analysis, I or my staff has reviewed GE's Motion For A Preliminary Injunction ("Motion"), and declarations and exhibits submitted in support of that Motion. I or my staff has also reviewed publicly available documents discussed in the Motion,

supporting exhibits and declarations; the depositions of Nigel Darby, Carl Scandella, and Mats Lundkvist; and documents produced by GE and Bio-Rad in discovery. The materials I have considered in preparation of this declaration are referenced in the body, footnotes, tables, graphs or exhibits of this declaration and in Exhibit 3.

11. In addition to the review of documents listed above, I have relied on my training in economics and my knowledge and expertise regarding intellectual property litigation damages.

12. I may supplement this declaration in the event that additional relevant materials are provided to me, including court filings and testimony.

III. GE's Assertions of Potential Irreparable Harm

13. I understand that plaintiffs seeking a preliminary injunction must establish that they are likely to succeed on the merits of the underlying claim; that they are likely to suffer irreparable harm in the absence of preliminary relief; that the balance of equities tips in their favor; and that an injunction is in the public interest.¹

14. I understand that the possibility of irreparable harm is not sufficient grounds for a preliminary injunction. Rather, I understand that the plaintiff must show that irreparable injury is likely in the absence of an injunction.²

15. I also understand that where the accused product includes many features of which only one (or a small minority) infringe, a finding that the patentee will be at risk of irreparable harm does not alone justify injunctive relief.³ It is my understanding that the patentee must also

¹ *Winter v. Natural Res. Def. Council, Inc.*, 129 S. Ct. 365, 374 (2008).

² *Winter v. Natural Res. Def. Council, Inc.*, 129 S. Ct. 365, 375 (2008).

³ *See, for example, Apple Inc. v. Samsung Electronics Co., Ltd.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012).

establish that the harm is sufficiently related to the infringement.⁴ And it is my understanding that to satisfy the irreparable harm factor in a patent infringement suit, a patentee must establish both of the following requirements: (1) that absent an injunction, it will suffer irreparable harm, and (2) that a sufficiently strong causal nexus relates the alleged harm to the alleged infringement.⁵

16. I understand that the causal nexus requirement is not satisfied simply because removing an allegedly infringing component would leave a particular feature, application, or device less valued or inoperable. To establish a sufficiently strong causal nexus, the patentee must show that consumers buy the accused Bio-Rad product because it is equipped with the features claimed in the patent-in-suit.⁶

17. I also understand that a preliminary injunction may not be granted if there is an adequate remedy at law, such as money damages, to compensate the plaintiff for his alleged harm.⁷

18. GE has moved in its Motion for a preliminary injunction enjoining Bio-Rad from selling its NGC systems on the grounds that such systems infringe the '718 patent. In support of its Motion, GE submitted the Darby Declaration to support its argument of irreparable harm.

19. GE argues in its Motion that Bio-Rad's sales of the accused products have caused GE to lose sales of its liquid chromatography systems, the ÄKTA Avant and ÄKTA Pure

⁴ *Apple Inc. v. Samsung Electronics Co., Ltd.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012).

⁵ *Apple Inc. v. Samsung Electronics Co., Ltd.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012).

⁶ *Apple Inc. v. Samsung Electronics Co., Ltd.*, 695 F.3d 1370, 1374 and 1376 (Fed. Cir. 2012).

⁷ *Jayaraj v. Scappini*, 66 F.3d 36, 39 (2d Cir. 1995).

systems, and have caused price erosion of these systems.⁸ GE further alleges that continued sale of the NGC systems "threatens GE's future growth" by "prevent[ing] GE from *gaining the first mover advantage* that it needs, especially to strengthen its presence in the academic market" and by harming GE's goodwill (emphasis added).⁹

20. I first address the question of nexus. I then address each of these GE arguments – lost sales, price erosion, loss of "first mover advantage," and loss of good will – in turn.

IV. Nexus

21. GE fails to establish a causal connection between the patented features and any lost sales or other harm that it alleges resulting from Bio-Rad's sales of the NGC systems. GE has not provided evidence of demand for the claimed benefits of the patented features, identified by GE as modularity and separation of fluidics and non-fluidics (electronics, etc.) sections.¹⁰

[REDACTED]

[REDACTED]

[REDACTED]

⁸ Memorandum of Law in Support of Plaintiffs' Motion for a Preliminary Injunction dated September 9, 2014, (hereafter "GE's Preliminary Injunction Brief"), at pp. 11-12, 16-18.

⁹ GE's Preliminary Injunction Brief, pp. 12, 17-19.

¹⁰ Darby Declaration to GE's Motion for Preliminary Injunction ("Darby Decl."), at ¶ 9.

¹¹ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

22. GE marketing materials for the ÄKTA Avant and ÄKTA Pure systems, as well as third party reviews of these products, also indicate that product features other than those claimed to be covered by the '718 patent are important. For instance, the August 27, 2013 announcement of the ÄKTA pure 150 advertises the "flow rates" and "UNICORN software," and makes no mention of modularity or separation of fluidics and electronics.¹² Similarly, Bio-Rad marketing materials and third party reviews for the NGC systems indicate features other than those at issue in this litigation are important. For instance, consumers cite the "Point-to-plumb" feature with the "little LED lights," which is unique to the NGC, as a feature that makes the NGC easy to use.¹³ Consumers also cite the ease of use of the NGC software.¹⁴ Consistent with these

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Note also, that in the Select Science announcement of the introduction of the GE ÄKTA Pure system, the ease of use of the Unicorn software of the system (along with modularity and flexibility) is called out. The separation of fluidics and electronics is not mentioned at all. (Ex. 5, <http://www.selectscience.net/product-news/ge-healthcare/ge-healthcare-launches-akta-pure,-a-new-modular-chromatography-system-for-protein-purification/?artID=26015&u=9BD7C975-862D-468B-9A63-8B718294A57B>.) The announcement of the Pure 150 system does not mention either modularity or separation of electronics and fluidics. (Ex. 6, <http://www.selectscience.net/product-news/ge-healthcare/ge-healthcare-life-sciences-launches-akta-pure-150-chromatography-system/?artID=30032&u=9BD7C975-862D-468B-9A63-8B718294A57B>.) Interestingly, while the GE Pure product was nominated for the Select Science separation product of the year in 2012, it did not win. However, in 2013 another GE ÄKTA protein separation system product – the GE Start – did win that award. I understand that GE has not claimed that the Start product practices the patent at issue.

¹² Ex. 6, Select Science August 27, 2013 announcement of the ÄKTA pure 150.

¹³ <http://www.youtube.com/watch?v=ePJ11YuN9gs>. In its Memorandum in support of its Motion for an injunction, GE specifically cites to five Bio-Rad YouTube videos by Bio-Rad. One of these has no apparent relationship to the NGC product; of the other four, three do not mention modularity or separation of electronic and fluid components at all. The final video does

consumer reviews, Bio-Rad emphasizes the "Compact footprint," "Point-to-Plumb" lighting, and "Unique Chromlab software" as benefits of the NGC system.¹⁵ In Bio-Rad's online "NGC System Tour" video, several features of the NGC system are highlighted in audio and text: Art Drives Design, Protein Purification Transformed, Tier Expansion Options, Tier Rotations, Plug-and-Play Modules, and Plumbing with Ease.¹⁶ Similarly, an NGC system brochure emphasizes scalability, modularity, and the intuitive software package as the "core" of the platform.¹⁷

23. [REDACTED]

[REDACTED] There is no available evidence suggesting that customer demand is driven by the fluidics/electronics separation feature and there is virtually no evidence that the particular type of modularity claimed in the patent-in-suit drives customer demand. [REDACTED]

mention modularity briefly, along with other product features, and does not mention separation of electronic and fluid components at all.

¹⁴ <http://www.youtube.com/watch?v=3SmlbNZ8kkc>.

¹⁵ Ex. 7, NGC Quest™ 10 Chromatography System.

¹⁶ <http://biorad-ads.com/ngc-interactive-demo/>

¹⁷ Ex. 8, NGC Chromatography Systems

¹⁸ Ex. 9, GEHC_000176; Ex. 10, GEHC_000255.

¹⁹ Ex. 4, 10/16/2014 Darby Dep. Tr., at 25:5-22; 34:16-35:3.

²⁰ Ex. 4, 10/16/2014 Darby Dep. Tr., at 26:1-27:21; 28:11-30:7; 31:21-32:2; 33:2-16; 36:11-37:22.

[REDACTED]

24. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Therefore, the claimed "modularity" invention in current generation systems appears to be an incremental advance at best, and thus would be unlikely to drive sales.²⁴

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

25. [REDACTED]

[REDACTED]

²¹ Ex. 4, 10/16/2014 Darby Dep. Tr., at 228:7-14.

²² Ex. 4, 10/16/2014 Darby Dep. Tr., at 56:7-58:9; 59:18-60:5; 63:10-19; Ex. 11, 10/22/2014 Lundkvist Dep. Tr., at 94:4-95:25; 113:11-114:10; 116:10-120:7; 121:1-123:14; 188:5-15.

²³ Ex. 4, 10/16/2014 Darby Dep. Tr., at 59:20-60:5.

²⁴ Ex. 4, 10/16/2014 Darby Dep. Tr., at 63:10-67:24; 82:23-85:9.

²⁵ Ex. 4, 10/16/2014 Darby Dep. Tr., at 230:3-16.

²⁶ Ex. 9, GEHC_000176, at 177; Ex. 12, GEHC_000131; Ex. 4, 10/16/2014 Darby Dep. Tr., at 59:20-60:5.

[REDACTED] Therefore, the claimed "separation of fluidics and electronics" invention in current generation systems appears to be an incremental advance at best, and again would be unlikely to drive sales. [REDACTED]

[REDACTED]

[REDACTED]⁸

26. As noted above, GE and Bio-Rad have been competing in selling protein purification systems for many years, and an installed base of Bio-Rad products exists. Hence, there are customers who preferred, for reasons clearly independent of GE's '718 patent, Bio-Rad products over GE products. GE has provided no evidence to suggest that recent Bio-Rad sales to customers in its installed base are for reasons different from prior Bio-Rad sales to these customers; that is, that the most recent sales are due to the patented features allegedly incorporated in Bio-Rad devices rather than the reasons these customers chose Bio-Rad in the first place [REDACTED]

27. In addition, Bio-Rad sold "previous generation" products to customers in GE's installed base before the ÄKTA Avant and Pure systems were in the market. These customers obviously chose Bio-Rad products over GE products for reasons other than the patented functionalities. GE provides no evidence to suggest that sales of accused Bio-Rad systems were, or would be, for reasons different from these previous sales.

28. [REDACTED]

[REDACTED]

[REDACTED]

²⁷ Ex. 4, 10/16/2014 Darby Dep. Tr., at 85:5-89:8; Ex. 11, 10/22/2014 Lundkvist Dep. Tr., at 143:3-144:5; 186:21-188:4.

²⁸ Ex. 4, 10/16/2014 Darby Dep. Tr., at 88:23-89:8.

[REDACTED]

29. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Furthermore, GE has not presented any evidence that there would be any difficulty in calculating monetary damages for any lost sales of chromatography columns, should Bio-Rad's NGC systems be found to infringe the patent-in-suit.

30. [REDACTED]

[REDACTED]

[REDACTED] However, if it is determined that the NGC systems infringe the '718 patent and that such infringement is causing GE to lose sales, then GE and Dr. Darby have not provided any reason why the harm to GE would extend beyond sales during the period of this lawsuit. If GE is successful at trial, it would presumably move to have Bio-Rad enjoined from using the patented features. Dr. Darby and GE offer no explanation of why customers who originally purchased the Bio-Rad NGC systems for the patented features at issue in this case would choose to purchase a subsequent device that does not include those patented features. They do not provide any reason why the functionalities are important now, but would not be important in the future when a customer would be in the market again for a

²⁹ Ex. 4, 10/16/2014 Darby Dep. Tr., at 129:9-130:17; Ex. 13, GEHC_007228.

³⁰ Darby Decl., at ¶26.

³¹ Ex. 9, GEHC_000176 at 177.

liquid chromatography system. Absent such a showing, Dr. Darby and GE have no basis to argue that any harm would extend beyond the period of this lawsuit.

V. Lost Sales

31. It is very unlikely that GE will suffer irreparable harm from any lost sales due to the continued sale of the accused Bio-Rad products during the pendency of this litigation. To the degree that GE is successful on the merits of its claim, and finds that it has suffered lost sales in the course of the litigation, the amount of these lost sales can be estimated with reasonable precision at the time of trial, allowing adequate monetary compensation to GE. While the estimation of the quantity of lost sales can sometimes be difficult, as discussed below those difficulties do not appear to be present in this instance.

32. [REDACTED]

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³² Ex. 14, GEHC 007242, at 7245; Ex. 4, 10/16/2014 Darby Dep. Tr., at 108:8-109:19.

³³ Ex. 14, GEHC 007242, at 7249.

34. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

³⁴ [REDACTED]

³⁵ Ex. 4, 10/16/2014 Darby Dep. Tr., at 129:19-130:9.

³⁶ Ex. 13, GEHC_007228; Ex. 4, 10/16/2014 Darby Dep. Tr., at 128:15-129:1.

³⁷ Ex. 13, GEHC_007228.

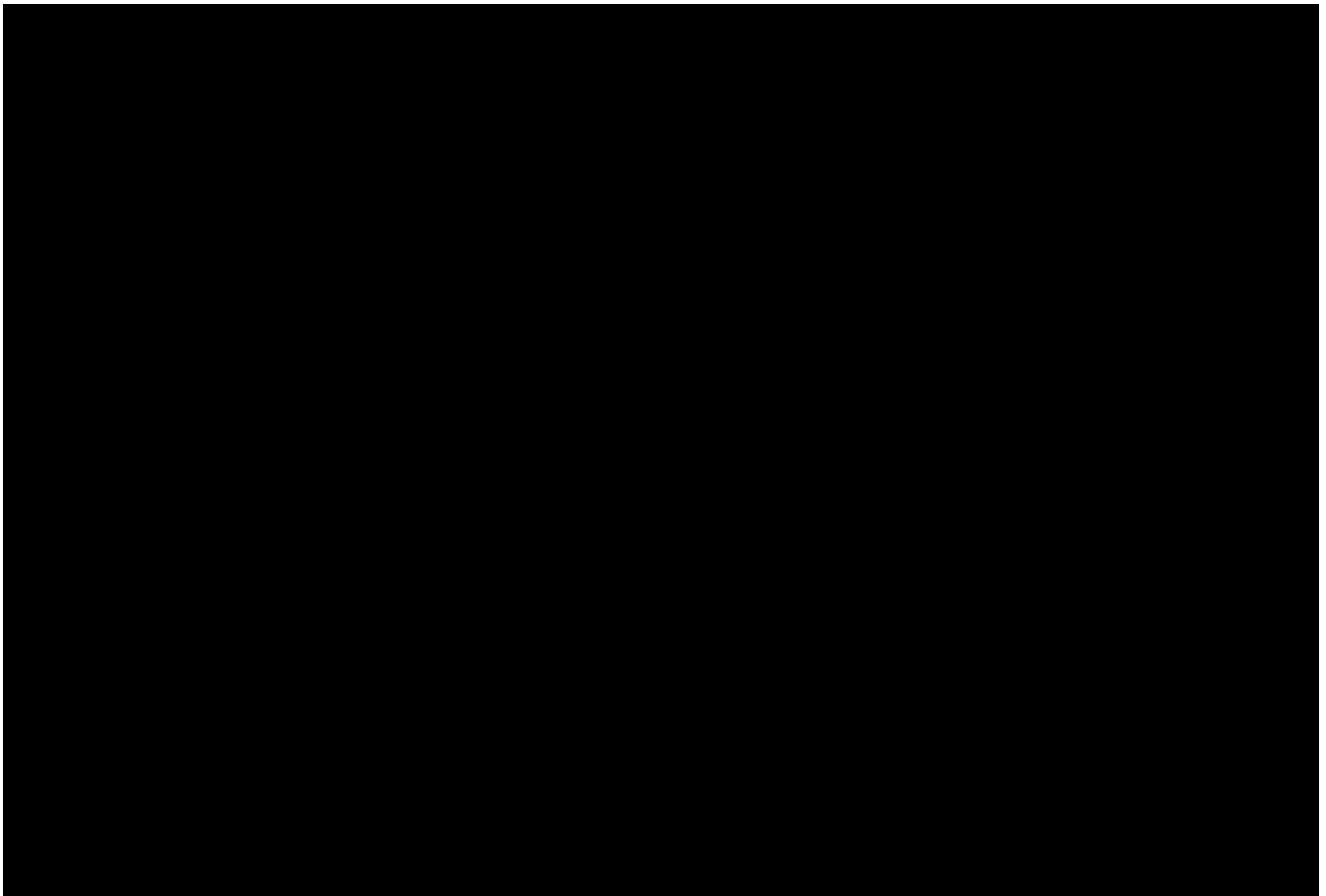


Figure 1

35.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

³⁸ Ex. 15, GEHC_000278, at 293, Ex. 4, 10/16/2014 Darby Dep. Tr., at 92:16-93:11.

³⁹ Ex. 13, GEHC_007228.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

VI. Price Erosion

36. It is also very unlikely that GE will suffer irreparable harm from price erosion due to the continued sale of the accused Bio-Rad products during the pendency of this litigation. To the degree that GE is successful on the merits of its claims, and that it has suffered price erosion in the course of the litigation, the amount of price erosion can be estimated with reasonable precision at the time of trial, thereby allowing adequate monetary compensation to GE. While the estimation of the amount of price erosion can sometimes be difficult, as discussed below those difficulties do not appear to be present in this instance.

37. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Furthermore, to the extent that the entire price decline occurred before GE's patent issued, I understand GE would not be entitled to be compensated for damages resulting from that decline, and may not use any such decline as the basis for a claim of irreparable harm to support an entitlement to injunctive relief.

⁴⁰ Figure 2; Ex. 16, GEHC_007250.



Figure 2

38. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] As a consequence, the causal connection between sales of the accused Bio-Rad products and any price erosion appears to be weak to non-existent. [REDACTED]

[REDACTED]

[REDACTED]

⁴¹ Ex. 4, 10/16/2014 Darby Dep. Tr., at 21:8-22:16; 26:1-27:21; 28:11-30:7; 31:21-32:2; 33:2-18; 36:11-37:22.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

VII. Loss of "First Mover Advantage" and Goodwill

39. GE also claims that absent an injunction, it will suffer a loss of first mover advantage and goodwill. This appears to be very unlikely. I would first note that the terms "first mover advantage" and "goodwill" are vague, and GE provides no guidance on the specific types of harm it believes it will suffer in this regard.

40. Whatever GE means, however, it is unlikely that this harm will occur absent an injunction. As noted above, GE and Bio-Rad have competed for many years in the market for protein separation systems, and whatever reputation and goodwill GE has is largely the result of this history. GE was (at least according to its claims) the first to market with a protein separation system that is modular and separates the electronics and fluidics components, introducing this product in 2009 (approximately 4 years before Bio-Rad introduced its accused products). According to GE, these product innovations were widely recognized. For instance, GE notes that the ÄKTA Pure system was nominated by Select Science for the "Best Separations Product of 2012."⁴² As a consequence, if these innovations were going to give GE a first mover advantage, they would have done so well before Bio-Rad entered the market with its accused products.

⁴² Ex. 17, February 11, 2013 News Report from Select Science, <http://www.selectscience.net/product-news/selectscience-opens-voting-for-best-separations-product-and-best-spectroscopy-product-of-the-year-2012/?artID=27491>.

41. Moreover, to the degree that the introduction of the accused Bio-Rad products would diminish the GE first mover advantage and goodwill (and for reasons explained above, I think this very unlikely), that damage is already done and is not affected by an injunction at this point. Bio-Rad introduced its accused products in 2013, more than a year before the GE patent was issued. Thus, any harm to GE occasioned by the introduction of the accused Bio-Rad products is not harm that resulted from patent infringement, and is not harm that can now be undone by an injunction.

42. Finally, for the reasons detailed above, there appears to be little if any connection between any losses in goodwill or first mover advantage that GE may incur, and the specific features of the Bio-Rad accused products that GE asserts are covered by its patent. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

43. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁴³ Ex. 10, GEHC_000255, at 256.

⁴⁴ Ex. 10, GEHC_000255, at 256; Ex. 18, GEHC_000220; Ex. 19, GEHC_000263.

[REDACTED]

[REDACTED]

VIII. Any Damages Suffered by GE Would Be Quantifiable

44. GE has a significant hurdle to meet to claim any of the allegedly non-quantifiable damages discussed in Dr. Darby's declaration. GE has put forth no surveys, conjoint analyses, hedonic regressions or other analyses to prove that a sufficiently strong causal nexus relates the alleged harm to the alleged infringement. However, if some Bio-Rad customers made their decision to purchase the NGC system based on the features enabled by the patent-in-suit, this number of customers can be calculated with reliable precision. Lost profits as a result of lost sales is a common, acceptable and measureable damage calculation. I have calculated lost profit damages on numerous occasions in my career and GE has not provided any convincing reasoning to support why damages would not be calculable in this litigation.

45. GE claims that it competes directly with Bio-Rad in a two-player market, and that each sale of a Bio-Rad accused product represents a lost sale to GE.⁴⁶ To the degree that GE is correct, estimation of the number of lost sales is a trivial exercise. Moreover, even if GE is not correct that each sale of an accused Bio-Rad product is a sale lost to GE, quantification of the number of lost sales should be straightforward.

⁴⁵ Ex. 10, GEHC_000255, at 256.

⁴⁶ Darby Decl., at ¶21: "The NGC and ÄKTA systems are the *only* protein purification systems featuring the modular panel design allowing for swapping of interchangeable modules that are currently marketed or sold for the purpose of preparative protein purification in the United States. Thus, *they are direct competitors.*" (Emphasis added.)

[REDACTED]

46. GE and Bio-Rad have competed with each other in the sale of protein purification systems for many years. Prior to 2009, they both competed with "previous generation" products that, GE argues, did not contain the features at issue here (modularity and separation of fluidics and non-fluidics sections). After 2009, GE competed with both previous generation and current generation products, while Bio-Rad offered only previous generation products. In 2013, Bio-Rad introduced a current generation product. In September 2014, GE was granted a patent. Thus, a damages expert will have a rich "pre-infringement" history of competition between the companies, which should make the estimation of lost sales a straightforward and precise exercise.

47. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

48. To the degree GE suffers any price erosion during the pendency of this litigation, the amount of such price erosion could be estimated with reasonable precision. Estimation of the amount (if any) of price erosion requires estimation of the "but-for" price: the price at which GE would have sold its products absent the competition from the accused Bio-Rad products. As with lost sales, the pre-existing competition between GE and Bio-Rad will make this process much easier and more accurate. In this matter, we have an ample history of competition between Bio-Rad and GE in the period before Bio-Rad began marketing its accused products. Thus, it will be straightforward to estimate the impact of the introduction of the accused Bio-Rad

⁴⁷ Ex. 20, Bio-Rad Sales Data.

products on the existing price of the GE products.

49. While it is true that in some instances price erosion due to a competing product is difficult to reverse, even after the competing product is no longer in the market, that does not appear to be likely in this instance. Difficulty in reversing price erosion stems from customer resistance when an individual customer becomes accustomed to, and comes to expect, the lower price. [REDACTED]

50. [REDACTED]

51. In addition, since protein purification systems are durable capital goods, a customer who purchased from GE during the pendency of the litigation would be unlikely to purchase another protein purification system from GE soon after the end of the litigation.⁴⁹ [REDACTED]

⁴⁸ [REDACTED]

⁴⁹ And of course, if the customer purchases another system years after the conclusion of the litigation, the discounted "pre-trial" price that they paid years ago will not have a large impact of their price expectations.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

52. Thus, if the accused Bio-Rad products are found to infringe the GE patent, and GE is granted a permanent injunction, and there really was price erosion due to competition from allegedly infringing Bio-Rad products, GE should not face difficulty in restoring its prices to the "monopoly" level.⁵² There is virtually no evidence that consumers are locked into Bio-Rad or GE products. Further, if GE is successful at trial, GE would presumably move to have Bio-Rad enjoined from using the patented functionalities. Dr. Darby offers no explanation of why customers who originally purchased the Bio-Rad device for the patented functionalities at issue in this case would purchase a subsequent device that does not include those patented functionalities. Put another way, if the patented features are important enough to drive sales of protein purification systems, then when GE is again the only seller of systems with these features, it should not have difficulty restoring the monopoly price.

53. Furthermore, even if price erosion were irreversible, an injunction would offer no

⁵⁰ Ex. 20, Bio-Rad Sales Data.

⁵¹ See, for instance, Ex. 21, GEHC_000258; Ex. 19, GEHC_000263; Ex. 10, GEHC_000255.

⁵² Long-term contracts under which a customer makes repeated purchases of a consumable good are another source of price irreversibility. I have seen no claim or evidence that GE sells its protein separation systems to customers under long-term contracts, where the customers buy multiple systems over time at a contract-specific price.

relief. [REDACTED] GE was not granted its patent until September 2014. If competition from the NGC products were going to cause price erosion, it would have already done so by September 2014. If that price erosion were irreversible, then the lower price would continue, whether Bio-Rad were enjoined from selling the NGC products or not.

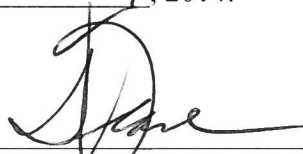
54. Dr. Darby also includes other types of related damages such as convoyed sales or sales of other GE products. It is not clear that these effects even exist, as I have discussed above.

[REDACTED] Even if these other effects do exist, an experienced damages expert can use studies that have been conducted about customer loyalty and churn to calculate how many of these customers will be repeat customers at both Bio-Rad and GE. If GE has lost any convoyed sales related to its lost sales, there will be evidence of the types of purchases GE customers normally make, in what quantities, at what prices, and at what profit to GE.

55. In conclusion, it is my opinion that GE has not and will not suffer any irreparable harm such as lost sales, price erosion, loss of goodwill, or first mover advantage. It is also my opinion that GE has not satisfied the causal nexus requirement relating its alleged harm to Bio-Rad's alleged infringement. It is also my opinion that if it is determined that GE has actually suffered any harm, whether in the form of lost sales or otherwise, any such harm could be quantified.

I declare under penalty of perjury that the foregoing is true and correct. Executed in
Provo, UTAH, on NOVEMBER 14, 2014.

By



James R. Kearl